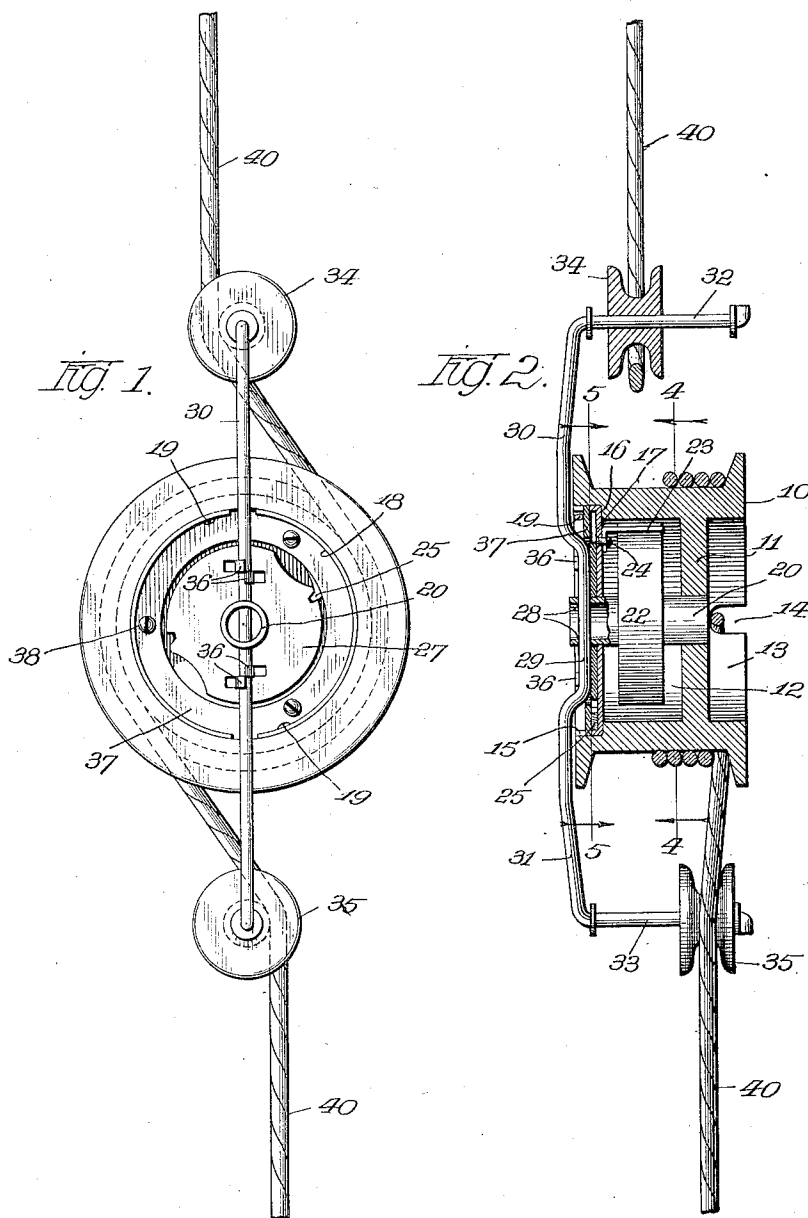


1,070,684.

2 SHEETS—SHEET 1.



Witnesses:
Robert H. Weir
A. H. Rakag

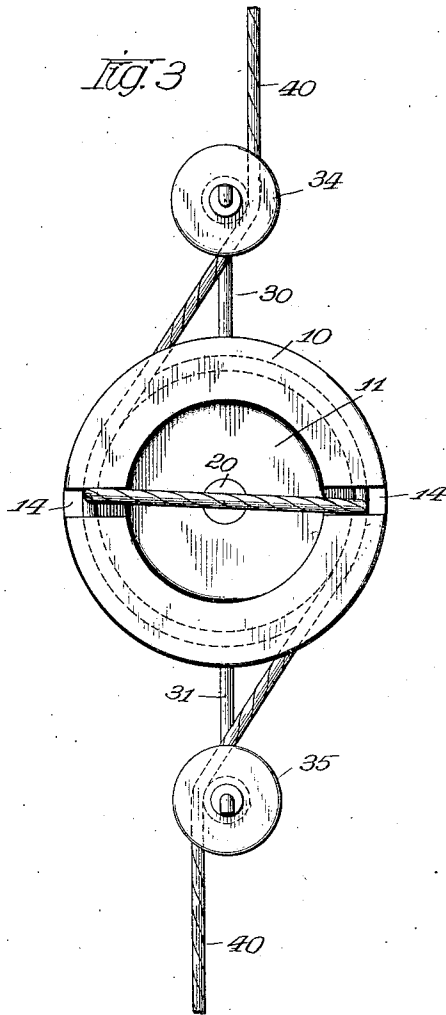
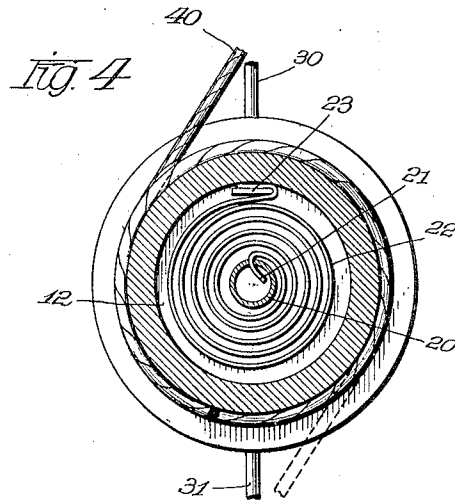
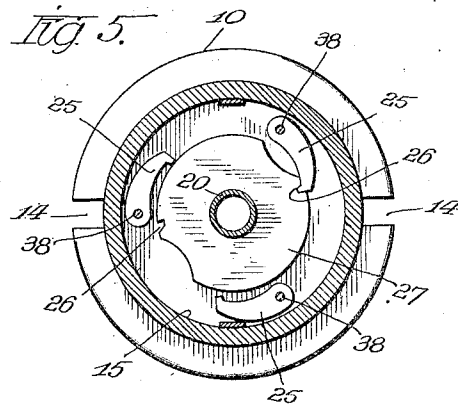
Inventor:
Noah S. Harter
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N. S. HARTER.
CORD SLACK TAKE-UP.
APPLICATION FILED OCT. 9, 1911.

1,070,684.

Patented Aug. 19, 1913.

2 SHEETS-SHEET 2.



Witnesses
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UNITED STATES PATENT OFFICE.

NOAH S. HARTER, OF WAUKEGAN, ILLINOIS.

CORD-SLACK TAKE-UP.

1,070,684.

Specification of Letters Patent.

Patented Aug. 19, 1913.

Application filed October 9, 1911. Serial No. 653,511.

To all whom it may concern:

Be it known that I, NOAH S. HARTER, a citizen of the United States, residing at Waukegan, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Cord-Slack Take-Ups, of which the following is a specification.

My invention relates to improvements in cord-slack take-ups, and has especial reference to its use with flexible duplex electric cords to which incandescent lamps are attached, to vary the height at which said lamps may be suspended.

One of the objects of my invention is to provide a device of this character that may be attached to a cord intermediate its ends without the necessity of threading the ends of the cord through apertures made in any part of the device.

Another object of my invention is to provide a self-contained structure, that is, a structure complete in itself independently of the cord-winding drum into which it may be inserted after the spring thereof has first been wound up, the construction and arrangement of the parts being such that there is no abnormal strain applied to the drum. And still another object of my invention is to generally improve the structure of devices of this character.

Other and further objects of my invention will become readily apparent to persons skilled in the art from a consideration of the following description taken in conjunction with the drawings, wherein—

Figure 1 is a side elevation of the device as it appears when suspended on a cord; Fig. 2 is a central longitudinal section; Fig. 3 is a side elevation of the device looking at it from the opposite side from which it is seen in Fig. 1; Fig. 4 is a section taken on line 4—4 of Fig. 2; and Fig. 5 is a section taken on line 5—5 of Fig. 2.

In all of the views, the same reference characters indicate similar parts.

One of the especial features of novelty by which my invention is characterized consists of the manner of its construction and the constructive relation of the parts, thereby providing a simple, efficient structure, easily assembled, and durable and effective in operation.

The flanked drum 10, when the device is to be used as a slack take-up for electric

flexible conducting cords, is preferably composed of an insulating substance, such as wood, vulcanized fiber, hard rubber, or the like, although it may be made of metal for some purposes. It is provided with a central web 11 and recesses 12 and 13 on either side thereof. One face of the drum is diametrically grooved, as at 14. The groove extends to the outer-surface of the web 11. The opposite side of the drum is counter-bored as at 15, to provide a shoulder 16 for the metal disk 17. The disk is flanged, as at 18, for attachment to the drum, as by screws 19. By this means, the entire operating mechanism may be connected to the drum. The stud 20, upon which the drum rotates, is preferably of tubular form, one end of which has bearing in a central perforation in the web 11, and the other end in the disk 17. It is provided with a slot into which the bent end 21 of the spring 22 is inserted. The outer end of the spring 22 is secured to an inwardly projecting arm 23, in a similar manner, which arm is secured to the disk 17, as by rivets 24. Thus, it will be seen that the spring is carried by the structure independently of the drum 10. The disk 17 carries a plurality of loosely pivoted ratchet pawls, or dogs, 25—25, that are rotated with the drum and are gravity operated and adapted to automatically engage the notches 26—26 in the relatively stationary ratchet disk 27. The tubular stud 20 extends beyond the ratchet disk 27, and is transversely perforated, as at 28, for reception of a diametrically disposed wire 29 that provides radial arms 30 and 31. These arms are laterally deflected into positions substantially parallel with the axis of the drum and in the plane thereof, to provide bearing arms 32 and 33 for guide pulleys 34 and 35 that are loose thereon and are adapted to be freely moved longitudinally thereof to lead the cord in even close convolutions when it is being wound upon the drum. The ratchet disk 27 is attached to the wire 29 by fingers 36—36, that are punched from the disk 27 and turned over the wire 29 as shown in Fig. 1. Overlying the dogs and in the same plane with the disk 27 is a flat annulus 37, secured to the disk 17, as by screws 38—38 which screws also serve as pivotal bearings for the dogs 25—25. When the motor mechanism has been assembled as described, the spring 22 is wound up by holding the arms

30—31 and rotating the disk 27 relative thereto after which said mechanism is inserted in a recess provided in the drum 10, and secured therein by screws 19. By this means, the spring is contracted, so that it may be easily inserted in said recess, although the mechanism may be wound up subsequently, after its insertion in the drum, by turning the drum with respect to the arms 30—31.

The take-up device may be placed on a suspended cord 40, or duplex electric conductor, by placing the cord under the guide roller 34, then through the slot 14 and over the guide roller 35, as clearly shown in Fig. 3, without the necessity of threading the end of the cord through closed perforations, and thus the device may be conveniently placed in and removed from operative position on the cord without disturbing either end of the cord.

The use and operation of the device is obvious.

Having described my invention, what I claim is:

1. In a device of the class described, the combination of a hollow winding drum and a self-contained spring-impelled winding mechanism adapted for insertion bodily within said drum comprising a bearing stud, a disk loose thereon, and provided with means to which the outer end of the winding spring is attached, a spring attached to said stud and disk, said drum being counterbored to receive said disk, ratchet means between said stud and disk, and means in the counterbored portion of the drum for securing said structure to the drum.

2. In a device of the class described, a cord-receiving drum having a recess upon one side of a central web, a spring-impelled winding mechanism bodily insertible in said recess after tensioning of the spring thereof, said mechanism including a peripherally flanged disk, and said drum being counter-

bored to receive said disk, and means to secure said disk in the counterbore.

3. In a device of the class described, a cord-receiving drum having a recess upon one side of a perforated web, and a winding mechanism bodily insertible in said recess comprising, in a self-contained structure, a stud, roller-carrying arms secured thereto, a disk rotatable thereon, a spring between said disk and stud, and means to secure said disk in the recess of the drum, the stud engaging the perforated web to afford rotatable bearing to the drum.

4. In a device of the class described, a cord-receiving drum having a recess upon one side of an inner web, and a spring-impelled winding mechanism bodily insertible in said recess comprising a stud supported by the web, a disk fixed upon said stud, a disk loose upon the stud, a spring between said stud and last mentioned disk, dogs pivotally carried by said loose disk, said fixed disk being peripherally shaped to provide ratchet teeth, a member extending through said stud to provide radial arms beyond the periphery of the drum, and means integral with said fixed disk for engagement between said member and the fixed disk.

5. In a device of the character described, the combination of a drum shaped to provide two annular flanges spaced to receive therebetween a number of turns of cord, said drum being recessed and provided with an inner web, and a self-contained spring-impelled winding mechanism bodily insertible in said recess in the drum and provided with a part for attachment to the drum independent of said annular flanges of the drum.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

NOAH S. HARTER.

In the presence of—

T. J. GALLOWAY,

N. D. SULLIVAN.